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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,499	08/25/2003	Robbert C. Van der Linden	SVL920030052US1/2863P	4213

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EXAMINER	
RADTKE, MARK A	

ART UNIT	PAPER NUMBER
2165	

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/648,499	LINDEN, ROBBERT C. VAN DER	
	Examiner	Art Unit	
	Mark A. Radtke	2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/25/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1, 11, 21, 24 and 27 are objected to because of the following informalities:

a. As to claims 1 and 21, line 4 recites “providing a cache for temporarily storing” which states the "intended use" of a database. Function(s) following the term "for" indicate "system ability" and/or "intended use" and do(es) not hold patentable weight.

b. As to claims 11 and 24, line 5 recites “providing a cache for temporarily storing” which states the "intended use" of a database. Function(s) following the term "for" indicate "system ability" and/or "intended use" and do(es) not hold patentable weight.

c. As to claim 27, line 4 recites “a database management system in a computer system for receiving a query”. Also, lines 6-7 recite “a cache [...] for temporarily storing a cache entry”. The use of the word “for” states the "intended use" of a database. Function(s) following the term "for" indicate "system ability" and/or "intended use" and do(es) not hold patentable weight.

Appropriate correction is required.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: claims 11 and 24 recite the limitation "computer readable medium". There is insufficient antecedent basis for this claim. The specification does not teach any definition of "computer readable medium" or "media" in general. Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1, 11, 21, 24 and 27 are rejected under 35 U.S.C. 101 because the result of "determining" does not produce a tangible result. The step of determining as recited in the claim is nothing more than a thought or a computation within a processor. What is determined is neither used nor made available for use to enable its usefulness in the disclosed practical application to be realized.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Damiani et al. ("Design and implementation of an access control processor for XML documents", Published in "Computer Networks", Vol. 33, Issues 1-6, Pages 59-75. Available online at at http://www.sciencedirect.com/science?_ob=MImg&_imagekey=B6VRG-40B2JGR-7-Y&_cdi=6234&_user=2502287&_orig=browse&_coverDate=06%2F30%2F2000&_sk=999669998&view=c&wchp=dGLbVlb-zSkzk&md5=ccc8253d4443baa1b88aed3a8262a7b9&ie=/sdarticle.pdf).

As to claim 1, Damiani et al. teaches a method for performing path-level access control evaluation for a structured document in a collection, wherein the structured document comprises a plurality of nodes and each of the nodes is described by a path (see page 63, section 3.1, "Identifying authorization objects via path expressions"), the method comprising the steps of:

a) providing a cache (see page 68, section 5.3, "Performance and caching") for temporarily storing a cache entry for a path associated with a node of the plurality of

nodes (see page 65, section 3.1, "Identifying authorization objects via path expressions");

b) receiving a query, wherein the query comprises a request to access the node (see page 67, section 5, "Design and implementation guidelines", paragraph 2, lines 6-9);

c) checking the cache entry for the path associated with the node (see page 66, section 4, "Authorization enforcement", lines 10-13 and page 68, section 5.3, "Performance and caching", lines 11-12); and

d) determining whether to grant access to the node based on the cache entry (see page 66, section 4, "Authorization enforcement", lines 1-5).

As to claims 2, 12 and 28, Damiani et al. teaches wherein the cache entry is one of a grant (see page 66, section 4, "Authorization enforcement", line 32, "'+' (permission)"), deny ("'-' (denial)"), unknown (line 33, "'ε' (no authorization)") and data-dependent statement (see page 63, section 3, "Authorizations", bullet-point 1, where "data-dependent statement" is read on "specific documents").

As to claims 3 and 13, Damiani et al. teaches wherein determining step (d) further comprising:

(d1) granting access to the node if the cache entry is a grant statement (see page 66, section 4, "Authorization enforcement", lines 1-5).

As to claims 4 and 14, Damiani et al. teaches wherein determining step (d) further comprising:

(d1) denying access to the node if the cache entry is a deny statement (see page 66, section 4, "Authorization enforcement", lines 1-5).

As to claims 5 and 15, Damiani et al. teaches wherein determining step (d) further comprising:

(d1) evaluating an access control policy for the structured document affecting the path if the cache entry is an unknown statement (see page 68, section 5.3, "Performance and caching", line 1 – page 69, line 5);

(d2) granting access if a result of the evaluation in step (d1) grants access (see page 66, section 4, "Authorization enforcement", lines 1-5); and

(d3) denying access if the result of the evaluation in step (d1) denies access (see page 66, section 4, "Authorization enforcement", lines 1-5).

As to claims 6 and 16, Damiani et al. teaches further comprising:

(e) determining whether the access control policy affecting the path is data-dependent (see page 63, section 3, "Authorizations", bullet-point 1, where "data-dependent" is read on "instance");

(f) changing the cache entry from the unknown statement to a grant or a deny statement based on the evaluation in step (d1) if the access control policy affecting the

path is not data-dependent (see page 68, section 5.3, "Performance and caching", line 1 – page 69, line 5); and

(g) changing the cache entry from the unknown statement to a data-dependent statement if the access control policy affecting the path is data-dependent (see page 68, section 5.3, "Performance and caching", line 1 – page 69, line 5).

As to claims 7 and 17, Damiani et al. teaches wherein determining step (d) further comprising:

(d1) evaluating an access control policy for the structured document affecting the path if the cache entry is a data-dependent statement (see page 63, section 3, "Authorizations", bullet-point 1, where "data-dependent" is read on "instance");

(d2) granting access if a result of the evaluation in step (d1) grants access (see page 66, section 4, "Authorization enforcement", lines 1-5); and

(d3) denying access if the result of the evaluation in step (d1) denies access (see page 66, section 4, "Authorization enforcement", lines 1-5).

As to claims 8 and 18, Damiani et al. teaches further comprising:

(e) repeating checking and determining steps (c) and (d) for a next node (See page 69, lines 2-5, section 5.3, "Performance and caching". The entire document is transformed, so each node must be transformed).

As to claims 9 and 19, Damiani et al. teaches wherein evaluating step (d1) further comprises:

(d1i) evaluating a value expression for the path associated with the node, wherein the value expression is an executable statement based on the access control policy affecting the path and indicates who has access to the node (see page 70, section 6.1, "The role of encryption").

As to claims 10 and 20, Damiani et al. teaches wherein checking and determining steps (c) and (d) are performed during a run time (See page 68, section 5.2, "Execution phases", column 2, final paragraph. It is implied that the execution steps take place on-demand; that is, at run-time.).

As to claim 11, Damiani et al. teaches a computer readable medium containing programming instructions for performing path-level access control evaluation for a structured document in a collection, wherein the structured document comprises a plurality of nodes and each of the nodes is described by a path (see page 63, section 3.1, "Identifying authorization objects via path expressions"), the programming instructions for:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 1 above.

As to claim 21, Damiani et al. teaches method for performing path-level access control evaluation for a structured document in a collection, wherein the structured document comprises a plurality of nodes and each of the nodes is described by a path (see page 63, section 3.1, "Identifying authorization objects via path expressions"), the method comprising the steps of:

a) providing a cache for temporarily storing a cache entry for a path associated with a node of the plurality of nodes (see Examiner's comments regarding claim 1), wherein the cache entry is one of a grant, deny, unknown and data-dependent statement (see Examiner's comments regarding claim 2);

b) receiving a query, wherein the query comprises a request to access the node (see Examiner's comments regarding claim 1);

c) checking the cache entry for the path associated with the node (see Examiner's comments regarding claim 1);

d) granting access to the node if the cache entry is a grant statement (see Examiner's comments regarding claim 3);

e) denying access to the node if the cache entry is a deny statement (see Examiner's comments regarding claim 4); and

f) determining access control if the cache entry is an unknown or data-dependent statement (see Examiner's comments regarding claim 6).

As to claims 22 and 25, Damiani et al. teaches wherein the determining step (f) further comprising:

f1) evaluating a value expression for the path associated with the node, wherein the value expression is an executable statement based on an access control policy affecting the path and indicates who has access to the node (see page 70, section 6.1, "The role of encryption");

f2) granting or denying access to the node based on a result of the evaluation in step (f1) (see page 66, section 4, "Authorization enforcement", lines 1-5);

f3) changing the cache entry to a grant or deny statement based on the result of the evaluation in step (f1) if the access control policy affecting the path is not data-dependent (see page 68, section 5.3, "Performance and caching", line 1 – page 69, line 5); and

f4) changing the cache entry to a data-dependent statement if the access control policy affecting the path is data-dependent (see page 68, section 5.3, "Performance and caching", line 1 – page 69, line 5).

As to claims 23 and 26, Damiani et al. teaches further comprising: g) repeating steps (c) through (f) for a next node (See page 69, lines 2-5, section 5.3, "Performance and caching". The entire document is transformed, so each node must be transformed).

As to claim 24, Damiani et al. teaches a computer readable medium containing programming instructions for performing path-level access control evaluation for a structured document in a collection, wherein the structured document comprises a plurality of nodes and each of the nodes is described by a path (see page 63, section

3.1, "Identifying authorization objects via path expressions"), the programming instructions for:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 21 above.

As to claim 27, Damiani et al. teaches system for performing path-level access control evaluation for a structured document in a collection, wherein the structured document comprises a plurality of nodes and each of the nodes is described by a path (see page 63, section 3.1, "Identifying authorization objects via path expressions"), comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 21 above and see also Figure 1.

As to claim 29, Damiani et al. teaches further comprising:

an Access Control mechanism coupled to the database management system for determining access control to the node if the cache entry is an unknown (see Examiner's comments regarding claim 5) or data-dependent statement (see Examiner's comments regarding claim 6).

As to claim 30, Damiani et al. teaches wherein the Access Control mechanism is configured to generate for the path associated with the node a corresponding value expression based on an access control policy for the structured document affecting the

path, wherein the database management system evaluates the corresponding value expression to determine whether to grant access to the node (see Examiner's comments regarding claim 9).

As to claim 31, Damiani et al. teaches wherein the database management system is configured to change the cache entry from an unknown statement to a grant or deny statement based on a result of the evaluation of the value expression if the value expression for the path is not data-dependent and to change the cache entry from an unknown statement to a data-dependent statement if the value expression for the path is data-dependent (see page 70, section 6.1, "The role of encryption" and see page 68, section 5.3, "Performance and caching", line 1 – page 69, line 5).

Additional References

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of art with respect to XML database security caching in general:

Patent/Pub. No.	**Issued to**	**Cited for teaching**
US 20040193607 A1	Kudo, Michiharu et al.	DB access control

US 20030208490 A1	Larrea, Jean-Jacques et al.	XML DB access control
US 6922695 B2	Skufca; Jim et al.	Secure cache
US 5893086 A	Schmuck; Frank B. et al.	Access control cache
US 6101558 A	Utsunomiya; Naoki et al.	Access control cache
US 6901410 B2	Marron; Pedro Jose et al.	XPath caching
US 6457103 B1	Challenger; James R. H. et al.	Access control cache
US 6798776 B1	Cheriton; David R. et al.	Security cache
US 5193184 A	Belsan; Jay S. et al.	Security cache
US 6249844 B1	Schloss; Robert Jeffrey et al.	XML cache

Conclusion

8. Any inquiry concerning this communication or earlier communications should be directed to the examiner, Mark A. Radtke. The examiner's telephone number is (571) 272-7163, and the examiner can normally be reached between 9 AM and 5 PM, Monday through Friday.

If attempts to contact the examiner are unsuccessful, the examiner's supervisor, Jeffrey Gaffin, can be reached at (571) 272-4146.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service at (800) 786-9199.

maxr
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23 March 2006

JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
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